

director is to be used in the update process. In the example of **FIG. 20a**, the user has selected the keywords “IBM,” “Dell” and “Cisco” as update criteria. The user interface **130** further includes approve **134** and disapprove **136** buttons that are used to initiate the updating of the viewer profile and to indicate whether the user approves or disapproves of the selected characteristics. This embodiment presumes that the update process is initiated by a single command that does not indicate approval or disapproval. In alternative embodiments, separate approve and disapprove commands may be provided for initiating the update process. This may be accomplished, for example, using separate approve and disapprove keys on a remote control. In such embodiments it is not necessary to provide the approve **134** and disapprove **136** buttons as in **FIG. 20a**. Rather, a single update button may be provided.

[0085] **FIG. 20b** shows an alternative user interface for an advanced update process in accordance with a thirteenth embodiment of the invention. This user interface differs from the user interface of **FIG. 20a** in that slide bars **138** are provided for indicating a particular score for each category or a selected subset of categories of the metadata of a program or segment. Each slide bar has a moveable field that may be navigated to and then moved left or right to indicate a preference score that the user wishes to associate with that category. An update button **140** is provided for initiating updating when category scores have been assigned and other characteristics have been selected.

[0086] As described above with respect to **FIG. 6**, embodiments in accordance with the invention may include a viewing habit monitor that tracks viewing of live television programs and segments, recording of programs and segments, and viewing of recorded programs and segments. Data representing these viewing habits may then be reported to an external system for use in various manners such as determining audience size and composition for programs and segments. The viewing habit data typically includes an identification of each program and segment that is actually received by the receiver device. These identifiers are obtained from the metadata applicable to the time periods in which the device is operated and the channels tuned to during those time periods. The viewing habit data may further indicate for each program and segment whether the program or segment was viewed as it aired or was recorded for later viewing. Data about viewing of recorded programs may also be compiled, such as whether the recorded program was viewed and when.

[0087] The embodiments described above do not explicitly address the presence of commercials that occur during or between program segments. The manner in which this issue is addressed may be determined based on the needs of the particular implementation. In the embodiments described herein, it is assumed that the segment metadata indicates, at a minimum, the start time of the segment, and that information concerning the location and length of commercials is not available. Under those circumstances, segments may, for example, be treated as encompassing all time between their indicated start time and the start time of the next successive segment, and time information presented to the user in the form of durations or segment field lengths may be determined accordingly. In other implementations there may be information indicating the location and length of commercials, or indicating the duration of segments excluding any

commercials, and in those implementations other forms of presentation may be designed accordingly. Commercials or commercial breaks may also have their own segment metadata and may be made available or hidden for purposes of the various displays and actions described herein.

[0088] The embodiments described above also assume that the program guide or program banner is produced by a device such as a set top box or personal video recorder that is controlled by the viewer using a conventional infrared or RF remote control. However in other implementations the viewer control signals may be provided to the device in other manners. For example, the device may be networked to a personal computer or personal digital assistant, allowing commands to be entered using an interface generated by the computer.

[0089] The embodiments described above also assume that timing information in program and segment metadata is provided in the form of an absolute time of day. However, in the case of segment metadata, the timing data need not be represented in this manner, an instead could be represented, for example, as a time difference from the start time of the program.

[0090] The embodiments described above also refer to a cursor, which is implemented by highlighting the program or segment field on which the cursor is located. However, it will be appreciated that a cursor or other manner of visual indication may be implemented in a variety of ways. Such various options may be referred to generally as an indicator.

[0091] While the aforementioned embodiments are described as being implemented in a video receiver device such as a set top box, personal video recorder or home media server, further embodiments may be implemented on other platforms. For example, devices that typically do not receive multiple channels of video data, such as personal computers, personal digital assistants and cell phones, can be used as platforms for implementing many of the features described above. In one alternative embodiment, these and other platforms may support a program guide that displays information about programs and program segments, and that provides related features such as scheduling and generating reminders, finding similar programs and segments, and updating preferences based on the characteristics of a specified program or segment. Additional capabilities related to the receipt of video, such as recording and scheduling of recording, displaying banners over video content, and tuning to programs or requesting transmission of programs, may be implemented on such platforms to the extent that receipt of video signals is available.

[0092] The devices, features and processing described herein are not exclusive of other devices, features and processing, and variations and additions may be implemented in accordance with the particular objectives to be achieved. For example, a system as described above may be integrated with other systems not described herein to provide further combinations of features, to operate concurrently on the same computing devices, or to serve other types of users. Thus, while the embodiments illustrated in the figures and described above are presently preferred for various reasons as described herein, it should be understood that these embodiments are offered by way of example only. The invention is not limited to a particular embodiment, but